

We claim:

1. (Currently Amended) A protective circuit having hot, neutral, and ground leads arranged to be placed between corresponding utility hot, neutral, and ground leads of a power utility outlet of a multi-phase power distribution network and corresponding device hot, neutral, and ground leads of at least one electrical and/or electronic device, the protective circuit responding to abnormal power conditions incoming from the power utility outlet and reducing or eliminating ground noise or noise between the ground and neutral leads transmitted to the devices, the protective circuit comprising:

a neutral-ground voltage surge protection/filtration circuit including at least one LC filter circuit component having; the LC filter circuit comprising:

at least one an inductive component disposed in series in the circuit ground lead between the utility network and the device; and

at least one a capacitor connected between the circuit neutral and circuit ground leads after the inductor towards the device, where the at least one the LC filter circuit component is being adapted to reduce or eliminate ground noise or noise between ground and neutral leads transmitted to the devices;

a first relay connected between the utility network and the device;

a first switch controlled by the first relay;

the first relay being in an opened position when no current is flowing through the first relay, the absence of current flow in the first relay corresponding to an abnormal state of the protective circuit;

the first switch in the opened position disconnecting components of the neutral-ground voltage surge circuit;

the first switch being in a closed position when current is flowing through the first relay, the presence of current flow in the first relay corresponding to a normal state of the protective circuit;

the first in the closed position connecting the components of the neutral-ground voltage surge protection filtration circuit.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) The protective circuit of claim 1, further comprising:

a hot-neutral voltage surge protection/filtration circuit component adapted to substantially reduce noise between the hot and neutral ends and to clamp a voltage between the leads; and the hot-neutral voltage surge protection /filtration circuit including an LC filter circuit, comprising:

~~a hot ground voltage surge protection circuit component adapted to substantially reduce noise between the hot and ground ends and to clamp a voltage between the leads;~~

an inductive component disposed in series in the circuit hot lead between the utility network and the device;

a capacitor connected between the hot and neutral leads after the inductor towards the device, the LC filter circuit component being adapted to reduce or eliminate ground noise or noise between hot and neutral leads transmitted to the devices.

5. (Currently Amended) The protective circuit of claim 4, further comprising: ~~a first relay controlling at least one first switch, where the at least one first switch is in an opened condition when no current is flowing through the first relay corresponding to an abnormal state of the circuit disconnecting some or all of components of the neutral ground voltage surge protection/filtration circuit and where the first switch is in a closed condition when current is flowing through the first relay corresponding to a normal state of the circuit connecting the neutral ground voltage surge protection/filtration circuit component; a second relay controlling a second switch, where the second switch is in an opened condition when no current is flowing through the second relay corresponding to an abnormal state of the circuit causing the second switch to disconnect the hot neutral voltage surge protection circuit component and the hot ground voltage surge protection circuit component and where the second switch is in a closed condition when current is flowing through the second relay corresponding to a normal state of the circuit causing the second switch to connect the hot neutral voltage surge protection circuit component and the hot ground voltage surge protection circuit component~~

a second relay connected between the utility network and the device;

a second switch controlled by the second relay;

the second relay being in an opened position when no current is flowing through the second relay, the absence of current flow in the second relay corresponding to an abnormal state of the protective circuit;

the second switch in the opened position disconnecting components of the hot-neutral voltage surge protection/filtration circuit;

the second switch being in a closed position when current is flowing through the second relay, the presence of current flow in the second relay corresponding to a normal state of the protective circuit;

the second switch in the closed position connecting the components of the hot-neutral voltage surge protection/filtration circuit.

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Original) The protective circuit of claim 5, further comprising:

a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value;

a relay supply switch for providing current to the relay circuit; and

an electronic switch responsive to the voltage threshold sensing circuit for disabling the relay supply switch allowing the relays to transition between their closed and opened conditions.

10. (Original) The protective circuit of claim 5, further comprising:

a voltage threshold sensing circuit adapted to detect when the voltage between the circuit hot and neutral leads exceeds a threshold value;

a relay supply switch for providing current to the relay circuit; and

an electronic switch responsive to the voltage threshold sensing circuit for disabling the relay supply switch allowing the relays to transition between their closed and opened conditions.

11. (Original) The protective circuit of claim 5, further comprising:
a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value;
a relay supply switch for providing current to the relay circuit;
an electronic switch responsive to the voltage threshold sensing circuit for disabling the relay supply allowing the relays to transition between their closed and opened conditions when a connection between ground leads is disconnected.
12. (Original) The protective circuit of claim 5, further comprising:
a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value;
a relay supply switch for providing current to the relay circuit;
an electronic switch responsive to the voltage threshold sensing circuit for disabling the relay supply allowing the relays to transition between their closed and opened conditions when the connection between the hot and neutral lead is reversed.
13. (Original) The protective circuit of claim 1, further comprising: a first indicator circuit for indicating a normal state, and a second indicator circuit for indicating an abnormal state.
14. (Currently Amended) The protective circuit of claim 1, wherein the neutral-ground voltage surge protection/filtration circuit component includes a resistor and a plurality of LC filter circuit components, each LC filter circuit including at least one inductor disposed in series in the circuit ground lead and a at least one capacitor connected between the circuit neutral and circuit ground leads after the inductor toward the device, ~~where~~ the LC filter circuits are being adapted to reduce or eliminate ground noise or noise between ground and neutral leads transmitted to the devices.
15. – 34. (Canceled)